

REMARKS

Claims 1-27 were examined and reported in the Office Action. Claims 1-27 are rejected. Claims 1, 4, 6, 8, 10, 13, 15, 19 and 26-27 are amended. Claims 1-27 remain. Note the amendments are described on page 10, lines 14-30 of the original specification. Thus, no new matter is added.

Applicants request reconsideration of the application in view of the following remarks.

I. 35 U.S.C. §102

It is asserted in the Office Action that claims 1-20 and 22-27 are rejected to under 37 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,388,997 issued to Scott ("Scott"). Applicants respectfully disagree.

According to MPEP §2131, "'[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990))."

Applicants' amended claim 1 contains the limitations of "[a] method for expanding cell coverage in a code division multiple access (CDMA) mobile communication system comprising the steps of: a) shifting a preamble access window by advancing transmission time of a transmission signal by a first delay time in order to acquire a first call access signal from a mobile station at a remote distance; and b) delaying a second call access signal from a mobile station at a short distance by a second delay time in order to acquire the second call access signal wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 6 contains the limitations of "[a] method for expanding cell coverage in a code division multiple access (CDMA) mobile communication system including at least a base station and a plurality of mobile stations, the method comprising the steps of: a) expanding a length of a current preamble access window to a predetermined value; b) determining the mobile station is within a cell coverage covered by the preamble access window; c) shifting the preamble access window by advancing transmission time of a transmission signal by a first delay time in order to acquire at least a mobile station when the mobile station is out of the cell coverage; and d) delaying a second call access signal from a mobile station at a short distance in order to acquire the second call access signal wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 10 contains the limitations of "[a]n apparatus for expanding cell coverage in a code division multiple access (CDMA) mobile communication system including a plurality of mobile stations and at least a base station, comprising: transmitting means for transmitting a transmission signal of which transmission time is advanced by a first delay time in order to acquire the transmission signal from a mobile station at a remote distance; and receiving means for receiving and delaying a received signal from a mobile station at a short distance by a second delay time in order to acquire the received signal wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 15 contains the limitations of "[a] A method for expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, the method comprising the steps of: a) expanding a length of a current preamble access window to a maximum value; b) setting operation parameters related to time advance in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the cell coverage; and c) acquiring a second call access signal from a mobile station at a short distance within the preamble access window by delaying the second call access signal wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 19 contains the limitations of "[a] method for expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, the method comprising the steps of: a) expanding a length of a current preamble access window for access probe to a maximum value; b) shifting the preamble access window by setting operation parameters in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the expanded preamble access window; and c) acquiring a second call access signal from a mobile station at a short distance within the preamble access window by delaying the second call access signal by a feedback delay which makes the second call access signal have a different delay value on basis of a distance between a location of the mobile station and a location on a cell radius wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 26 contains the limitations of "[a] computer readable media storing a method for expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, the method comprising the steps of: a) expanding a length of a current preamble access window to a maximum value; b) setting operation parameters in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the cell coverage; and c) acquiring a second call access signal from a mobile station at a short distance within the preamble access window by delaying the second call access signal wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

Applicants' claim 27 contains the limitations of "[a] computer readable media storing a method for expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, the method comprising the steps of: a) expanding a length of a current preamble access window for access probe to a maximum value; b) shifting the preamble access window by setting operation parameters in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the expanded preamble access window; and

c) acquiring a second call access signal from a mobile station at a short distance within the preamble access window by delaying the second call access signal by a feedback delay which makes the second call access signal have a different delay value on basis of a distance between a location of the mobile station and a location on a cell radius wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

In other words, Applicants' claimed invention discloses methods and apparatus for expanding cell coverage by advancing a transmission signal and selectively delaying a received signal in a code division multiple access (CDMA) system.

Scott discloses a system and method for effective time division duplex communication over a single frequency band. According to Scott, guard time overhead is reduced by active adjustment of reverse link transmission timing. Scott discloses that in response to a general polling message from the base station, a user station transmits a short reply message. The base station calculates the distance of the user station by measuring the propagation delay with respect to receipt of the reply message, and then sends a timing adjustment command to the user station instructing the user station to advance or retard its timing according to the calculated distance, so as to minimize guard times between time slots.

Thus, Scott teaches a system and method in which the base station monitors the user station transmission and commands the user station to advance or retard its transmission timing in order to minimize guard times between time slots. (Scott, Abstract)

Scott, however, fails to disclose, teach or suggest shifting of a preamble access by advancing a first call access signal from a first mobile station at a remote distance and delaying a call access signal from a second mobile at a short distance in the CDMA mobile communication system.

Therefore, since Scott does not disclose, teach or suggest all of Applicants' claims 1, 6, 10, 15, 19, 26 and 27 respective limitations, Applicants respectfully assert that a *prima facie* rejection under 35 U.S.C. §102(b) has not been adequately set forth relative to

Scott. Thus, Applicants' claims 1, 6, 10, 15, 19, 26 and 27 are not anticipated by Scott. Additionally, the claims that depend directly or indirectly on claims 1, 6, 10, 15 and 19, namely claims 2-5, 7-9, 11-14, 16-18, 20 and 22-25, respectively, are also not anticipated by Scott for the above same reason.

Accordingly, withdrawal of the 35 U.S.C. §102(e) rejection for claims 1-20 and 22-27 are respectfully requested.

II. 35 U.S.C. §103

It is asserted in the Office Action that claim 21 is rejected under 35 U.S.C. §103(a) as being unpatentable over Scott and further in view of U.S. Patent No. 6,212,405 issued to Jiang, et al. ("Jiang"). Applicants respectfully disagree.

According to MPEP §2142 "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." "All words in a claim must be considered in judging the patentability of that claim against the prior art." (In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicants' claim 21 directly depends on claim 19. Applicants' claim 19 contains the limitations of "[a] method for expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, the method comprising the steps of: a) expanding a length of a current preamble access window for access probe to a maximum value; b) shifting the preamble access window by setting operation

parameters in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the expanded preamble access window; and c) acquiring a second call access signal from a mobile station at a short distance within the preamble access window by delaying the second call access signal by a feedback delay which makes the second call access signal have a different delay value on basis of a distance between a location of the mobile station and a location on a cell radius wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated."

As asserted above in Section I, Scott does not teach, disclose or suggest the limitations contained in Applicants' claim 19.

Jiang discloses an extended range concentric base station and a method for extending a cell size or access range. Jiang is relied upon in the Office Action for expanding a cell radius "45KM or more."

Even if one were to combine the invention disclosed in Scott with the invention disclosed in Jiang, the combined product would still not result in Applicant's claimed invention because neither Scott nor Jiang disclose, teach or suggest expanding cell coverage applied to a code division multiple access (CDMA) mobile communication system, expanding a length of a current preamble access window for access probe to a maximum value; shifting the preamble access window by setting operation parameters in order to acquire a first call access signal from a mobile station at a remote distance when the mobile station is out of the expanded preamble access window, wherein the transmission time of the transmission signal is advanced by delaying the transmission signal when being PN modulated.

Thus, since neither Scott, Jiang, nor the combination of the two, teach, disclose or suggest all the limitations of Applicants' claim 19, as listed above, there would not be any motivation to arrive at Applicants' claimed invention. Thus, Applicants' claim 19 is not obvious over Scott in view of Jiang since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claim that directly depends from claim 19, namely claim 21, would also not be obvious over Scott in view of Jiang for the same reason.

Accordingly, withdrawal of the 35 U.S.C. §103(a) rejection for claim 21 is respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely 1-27, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

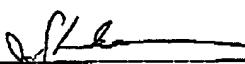
Respectfully submitted,

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